SZABO SCANDIC

Part of Europa Biosite

Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

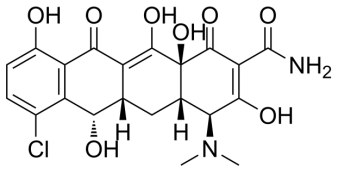
mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Demeclocycline

Cat. No.:	HY-121268
CAS No.:	127-33-3
Molecular Formula:	$C_{21}H_{21}ClN_2O_8$
Molecular Weight:	464.85
Target:	Antibiotic; Bacterial
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

H_2O : 40 mg/mL (86.05 mM; Need ultrasonic)
DMSO : 25 mg/mL (53.78 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.1512 mL	10.7562 mL	21.5123 mL
5 mM	0.4302 mL	2.1512 mL	4.3025 mL
10 mM	0.2151 mL	1.0756 mL	2.1512 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.25 mg/mL (2.69 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.25 mg/mL (2.69 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Demeclocycline is an orally active tetracycline antibiotic. Demeclocycline impairs protein synthesis by binding to the 30S ribosomal subunit to inhibit binding of aminoacyl tRNA. Demeclocycline shows anti-bacterial activitise to a wide variety of bacterial infections[1][2].

IC_{50} & Target

Tetracycline

In Vitro

Demeclocycline (0-100 μM; 24 h) treatment reduces AQP2 abundance in mpkCCD cells[3].
Demeclocycline (10 μM; 24 h) treatment promotes the activity of monocytes and macrophages[4].
Demeclocycline (1-10 μM; 72 h) treatment directly affects the growth of brain tumorinitiating cells[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[3]

Cell Line:	MpkCCD cells
Concentration:	0-100 μM
Incubation Time:	24 hours
Result:	Decreased AQP2 abundance in mpkCCD cells, with significant effects at 50 μM.

Cell Viability Assay[4]

Cell Line:	mouse bone marrow derived macrophages and monocytes
Concentration:	10 μM
Incubation Time:	24 hours
Result:	Enhanced TNF-α production and modulated monocyte functions.

Cell Viability Assay[4]

Cell Line:	brain tumorinitiating cells
Concentration:	1, 5, and 10 μM
Incubation Time:	72 hours
Result:	Inhibited cells growth in two ways: using monocytes as an intermediary, and directly by affecting the proliferation and sphere-forming capacity of brain tumorinitiating cells.

In Vivo

Demeclocycline (Intraperitoneal injection; 40 mg/kg; once daily; 48 h) treatment results in a significant reduction of hyponatremia and a significant correction of the hypoosmolality, and is not nephrotoxic[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Wistar rats induced with hyponatremia[3]
Dosage:	40 mg/kg
Administration:	Intraperitoneal injection; 40 mg/kg; once daily; 48 hours
Result:	Increased urine volume, decreased urine osmolality, and caused a significantly increased fractional excretion of water.

Animal Model:	Male Wistar rats induced with hyponatremia[3]
Dosage:	40 mg/kg
Administration:	Intraperitoneal injection; 40 mg/kg; once daily; 48 hours
Result:	Indicated the effect in the renal inner medulla for AQP2 and AC5/6 specifically, and not secondary toxicity effect.

CUSTOMER VALIDATION

- Mol Syst Biol. 2022 Sep;18(9):e11081.
- Chemosphere. 2019 Jun;225:378-387.
- J Photoch Photobio A. 2020 May.
- Patent. US20230014181.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. I Chopra, et al. Tetracyclines, molecular and clinical aspects. J Antimicrob Chemother. 1992 Mar;29(3):245-77.

[2]. D Schnappinger, et al. Tetracyclines: antibiotic action, uptake, and resistance mechanisms. Arch Microbiol. 1996 Jun;165(6):359-69.

[3]. Marleen L A Kortenoeven, et al. Demeclocycline attenuates hyponatremia by reducing aquaporin-2 expression in the renal inner medulla. Am J Physiol Renal Physiol. 2013 Dec 15;305(12):F1705-18.

[4]. Susobhan Sarkar, et al. Demeclocycline Reduces the Growth of Human Brain Tumor-Initiating Cells: Direct Activity and Through Monocytes. Front Immunol. 2020 Feb 21;11:272.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA